Source Water Assessment

A source water assessment was prepared through the New York Department of Health in 2002. It evaluated possible and actual threats to Batavia's drinking water sources. The State source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface into the wells. The susceptibility rating is an estimate of the potential for contamination of the source water; it does not mean that the water delivered to consumers is or will become contaminated. See the section "Are There Contaminants in Our Drinking Water?" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future. Our water is derived from two drilled wells and the Tonawanda Creek. The source water assessment has rated these wells as having a medium-high to very high susceptibility to microbials, nitrates, petroleum products, industrial solvents and other industrial contaminants. These ratings are due primarily to the close proximity of permitted discharge facilities (industrial/ commercial facilities that discharge wastewater into environment and are regulated by the state and/or federal government) to the wells and the associated industrial activity in the assessment area. In addition, the wells draw from an unconfined aquifer of unknown hydraulic conductivity. The source water assessment for the Tonawanda Creek has found an evaluated susceptibility to contamination for this source of drinking water.

The amount of agricultural lands in the assessment area results in elevated potential for microbials, phosphorus, DBP precursors and pesticides contamination. In addition, the moderate density of CAFOs (Concentrated Animal Feeding Operations) in the assessment may add to the potential for contamination. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality, based on their density in the assessment area. However, it appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to further raise the potential for contamination (particularly for protozoa). There is also noteworthy contamination susceptibility associated with other discrete contaminate resources. These facility types include mines. Finally, it should be noted that relatively high flow velocities make river drinking water supplies highly sensitive to existing and new sources of microbial contamination. While the source water assessment rates our Wells and the Tonawanda Creek as being susceptible to microbials, please note that Batavia's water is filtered and disinfected to ensure that the finished water delivered to your home meets New York State's drinking water standards for microbial contamination. A copy of the assessment, including a map of the assessment area, can be obtained by contacting the Genesee County Health Department **(585) 344-2580**, or Matt Worth at Batavia's City Hall **(585) 345-6315**.

Community Participation

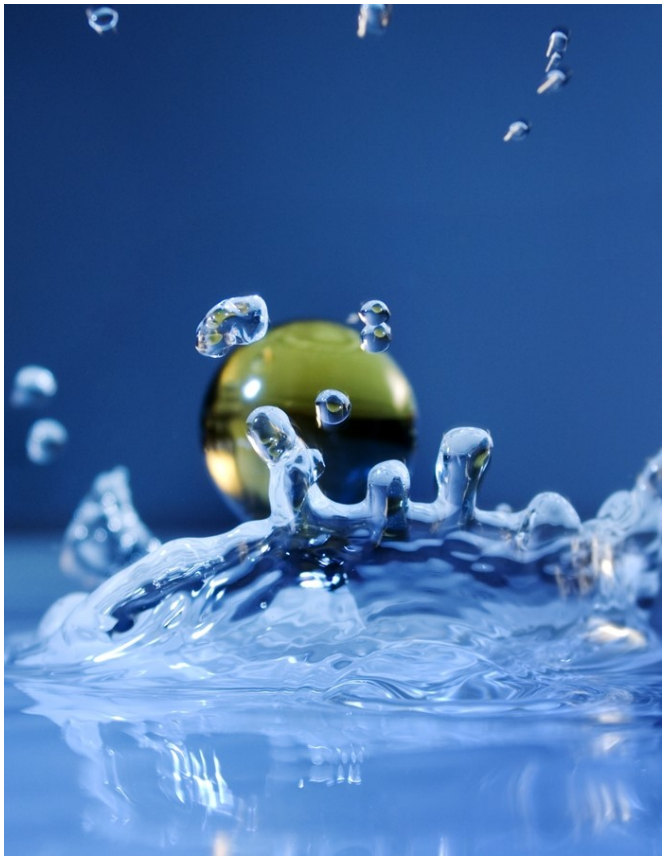
Major decisions concerning your drinking water are made by the Village of Oakfield Board of Trustees, which meets at the Village Office on the second and fourth Mondays of each month at 7 p.m. You are invited to attend these Village Board Meetings to become more informed or voice your opinion in the decision making process affecting your water.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If not moved, you have a leak.

Village of Oakfield
37 Main Street
Oakfield, NY 14125



Annual WATER QUALITY REPORT

Reporting Year 2012

Village of Oakfield
37 Main Street
Oakfield, NY 14125

Tel: 585-948-5862
Email:ivillage@rochester.rr.com

PWS ID#NY1800551

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The State requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE HIGH/LOW	VIOLATION Detected	TYPICAL SOURCE Low-High
Barium (ppm)	8/2/12	2	2	0.016	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chlorine Residual (ppm)	2012 (Hourly)	[4]	NA	1.1	0.4-1.5	No	By-product of drinking water chlorination.
Chromium (ppb)	8/2/12	100	100	9	NA	No	Discharge from steel and pulp mills; erosion of natural deposits.
Di(2-ethylhexyl) Phthalate (ppb) **[DEHP]** (ppb)	8/2/12	6	0	.3	NA	No	Used in plastic products such as polyvinyl chloride, plastic toys, vinyl upholstery, adhesives and coatings, likely released to the environment during production and waste disposal of these products. Also used in inks, pesticides, cosmetics and vacuum pump oil.
Fluoride (ppm)	8/2/12 (Daily)	2.2 2.2	NA 4.0	.62 .86	0.15-1.27	No	Erosion of natural deposits; Water additive to promote strong teeth; Discharge from fertilizer and aluminum Factories.
Nitrate (ppm)	8/2/12	10	10	.75	NA	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Sulfate (ppm)	8/2/12	250	NA	41	NA	No	Naturally occurring.
Total Organic Carbon (TOC)	2012 (Monthly)	TT	NA	1.19	ND-3.31	No	Organic contaminants (natural organic substances, insecticides, Herbicides and agricultural chemicals) enter waterways in rainfall runoff; Domestic and industrial wastewaters also contribute organic contaminants in various amounts.
Turbidity[1] (NTU)	12 (daily)	TT	NA	0.03	.02-.13	No	Soil runoff.
Turbidity (Lowest monthly percent of Samples meeting limit)	12 (daily)	TT	NA	100%	NA	No	Soil runoff.
Turbidity (NTU) **[Distribution System]**[2]	2012 (weekly)	TT	NA	0.08	0.03-0.23	No	Cloudiness in water main disruptions and breaks.

Tap water sampled were collected for lead and copper analyses from sample sites throughout the community.

Substance (Unit of Measure)	Date Sampled	AL	MCLG	Amt. Detected (90th%tile)	Range Low-High	Sites Above AL/ Total Sites	Violation	Typical Source
Copper[3] (ppm)	11/6/12	1.3	1.3	.11	.03-.17	0/20	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead[4] (ppm)	11/6/12	15	0	.0023	ND-.0026	0/20	No	Corrosion of household plumbing systems; erosion of natural deposits

OTHER SUBSTANCES

Substance (Unit of Measure)	Date Sampled	Amount Detected	Range Low-High	Typical Source
Alkalinity as CaCO3 (ppm)	8/2/12	64	NA	Natural minercals; lime softening process
Calcium (ppm)	8/2/12	17.4	NA	Mineral deposits
Nickel (ppb)	8/2/12	1	NA	Mineral deposits

1 Turbidity is a measure of the cloudiness of the water. It is tested because it is a good indicator of the effectiveness of the filtration system. Our highest single turbidity measurement for the year occurred as indicated in the table. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. (Note that TT is dependent upon filtration method: conventional, 0.3 NTU; slow sand, 1.0 NTU; or diatomaceous earth filtration, 1.0 NTU.) Although the month as indicated in the Date column was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.
2 The highest measurement of the monthly average distribution results for the year occurred as indicated in the table.
3 The level presented represents the 90th percentile of the 20 sites tested. A percentile is a value on scale of 100 that indicates the percent of a distribution that is equal or below it. The 90th percentile is equal to or greater than 90% of the copper values detected in Oakfield.
4 The level listed represents the 90th percentile of the 20 samples collected in 2010. Further lead and copper samples will be obtained during the summer of 2013.

Definitions

90th percentile: *The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.*

AL (Action Level): *The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.*

MCL (Maximum Contaminant Level): *The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.*

MCLG (Maximum Contaminant Level Goal): *The level of a Contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.*

MRDL (Maximum Residual Disinfectant Level) *The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.*

MRDLG (Maximum Residual Disinfectant Level Goal) *The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLDs do not reflect the benefits of the use of disinfectants to control microbial contamination.*

NA*: Not applicable.*

ND: (Not detected): *Indicates that the substance was not found by laboratory analysis.*

NTU (Nephelometric Turbidity Units): *Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.*

ppb (part per billion): *One part substance per billion parts water (or micrograms per liter).*

ppm (parts per million): *One part substance per million parts water (or milligram per liter).*

TT (Treatment Technique): *A required process intended to reduce the level of a contaminant in drinking water.*

HOW IS OUR WATER TREATED AND PURIFIED?

The City of Batavia's well water is very clear and requires little treatment other than softening. Soft water cleans better, and less soap is needed to wash effectively. Tonawanda Creek water enters the water plant through mechanical screens. The screens prevent creek debris from getting into the plant. Creek water is then mixed with well water in the flash mixers where water treatment chemicals are added. Ferric sulfate is added as a coagulant, neutralizing the charges on particles suspended in the water, and thus allowing them to clump together and drop out. Calcium oxide, also called lime, is added to the raw water to soften it. Lime will cause compounds of calcium, magnesium, and other minerals to begin to "precipitate" or drop out of the water. The water is then sent out to the softening tanks where paddles churn the chemically treated water forming a sludge layer of muddy water. The sludge is made up of added chemicals and chemicals from the water, suspended dirt, clay, silt and microorganisms. Most of these impurities will now drop out of the water. The next step is the settling basin where the water's velocity is reduced so that suspended matter can drop to the bottom. Carbon dioxide is added at this point to adjust the pH. Chlorine is added as a disinfectant, which will prevent growth of organisms in your drinking water. From the settling basin, the water is directed to 12 rapid sand filters. The filters allow the water through while holding back virtually any remaining particles. The water is then very clear, usually having a finished turbidity of around 0.02 NTU. Finally, a small amount of polyphosphate corrosion inhibitor to prevent minerals dissolved in the water from precipitating out onto your pipes. Pumps push the finished water out into the distribution system, up into two elevated tanks and to your homes and businesses, at a pressure of around 70 pounds per square inch. When it reaches the Village of Oakfield the booster chlorination pump raises the residual to 1.1 ppm.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call David Laney, Department of Public Works Supervisor, at 585-948-5994. For questions on health related issues, please contact the Department of Health at 585-344-2580.

Fluoridation of Our Water

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 ppm. To ensure that the fluoride supplement in your water provides optimal dental protection, the Sate Department of Health requires that we monitor fluoride levels on a daily basis. During the reporting year, monitoring showed fluoride levels in your water were in the optimal range 92% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 ppm MCL for fluoride.

LT2 Rule

The U.S. EPA has created the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) for the sole purpose of reducing illness linked with the contaminant *Cryptosporidium* and other disease-causing microorganisms in drinking water. The rule will bolster existing regulations and provide a higher level of protection of your drinking water supply.

Sampling of our water source has shown the following:

- *Cryptosporidium*: (0 to 2 oocysts/liter)
- *Giardia lamblia:* (0 to 18 cysts/liter)

It is important to note that these results are from our raw water source only and not our treated drinking water supply. For more information, contact the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Non-Detected Substances

The following is a complete list of all the substances that we tested for in 2012 but did not detect in our water supply:

Inorganics: Antimony, Arsenic, Beryllium, Cadmium, Cyanide, IronMercury, Nitrite, Selenium, Thallium.

SOCs: Alachlor, Atrazin, Aldron, Aldicarb, Aldicarb Sulfone, Aldicarb Sulfoxide, Arochlor (PCB's), Benzo(a)pyrene (PAH), Butachlor, Carbaryl (Sevin), Carbofuran, Chlordane, Dalapon, Dicamba, Dichloroprop, Dieldrin, Dinoseb, Endrin, Ethylene Dibromide (EDB), Heptachlor, Heptachlor Epoxide, Hexachloro benzene, Hexachlorocyclopentadiene, Lindane, Methomyl, Methoxychlor, Metolachlor, Metribuzin, Oxamyl, Pentachlorophenol, Pichloram, Propachlor, Simizine, Toxaphene, 3-Hydroxy carbofuran, 2,4-D, 2,4,5-T, 2,4,5-TP, (Silvex), bis(2-Ethylhexyl) Adipate.

VOCs: Acetone, Acylonitrile, 1,1,2-Trichlortrifluoroethane (Freon 113), Benzene, Bromobenzene, Bromochloromethane, Bromoethane, 2-Butanone (MEK), Sec-Butyl benzene, n-Butylbenzene, tert-Butyl benzene, , Carbon Disulfide, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane (EDB), Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodiflouromethane (Freon 12), 1,1-Dichloroethane, 1,2-Dichloroethene, 1,1-Dichloroethane, , cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Ethylbenzene, Hexachlorobutadiene, 2-Hexanone (MBK), Isopropylbenzene, 4-Isopropyltoluene, Methyl tert-butyl ether, 4-Methyl-2-pentanone (MIBK), Methylene chloride, Naphthalene, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethene, Trichloroflouromethane (Freon 11), 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Vinyl chloride, M,p-Xylene, o-Xylene, Tetrahydrofuran, Tert-amyl Methyl ether (MTBE), Ethyl tert-butyl ether, Di-isopropyl ether, Tert-Butanol/butyl alcohol, 1,2-Dibromo-3-chloropropane.

Meeting the Challenge

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water. We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: **Microbial Contaminants; Inorganic Contaminants; Pesticides and Herbicides; Organic Chemical Contaminants; and Radioactive Contaminants.**

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink the State and the U.S. EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State health Department and the U.S. FDA's regulations establish limits for contaminants in bottled water that must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at **(800) 426-4791**.

FACTS & FIGURES

The Village of Oakfield purchased 54,489,000 gallons of water from the City of Batavia through Genesee County in 2012. The Village serves a population of 1813 and supplies water to about 795 connections in the Village and 145 in the Town of Oakfield. A total of 2,140,443 (4%) was not metered and unaccounted for. This was water from hydrants or water lost in leaks or breaks. The charge for water billed in 2012 was $4.25 per thousand gallons.

Important Health Information

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline at (800) 426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

System Improvements

The construction of a new 500,000 gallon water storage tank in the Village of Oakfield began in May, 2013. The old tank is nearly 100 years old and has been deteriorating rapidly in the last 10 years. Several leaks have had to be repaired, and the tank is not meeting current safety standards. Construction of the tower is expected to be completed by Spring, 2014. The replacement of the tower was part of a water infrastructure capital project that included replacement of 12,900 linear feet of water transmission main along Downey Road and South Pearl Street that was completed in January, 2012. The project was financed through a $600,000 Community Development Block Grant from the New York State Office of Community Renewal, and low interest loan from United States Department of Agriculture Rural Development.

Where Does My Water Come From?

The Village of Oakfield purchases water wholesale from the Genesee County Water Authority, which comes from the City of Batavia. The City of Batavia receives its water from two sources. Two wells located at Cedar Street draw water from the Tonawanda Valley Watershed, one of the largest underground aquifers in New York State. The well water is exceptionally clear with an average turbidity of less than 0.05 NTU. However, well water in this area is hard (containing dissolved minerals) and requires softening to bring it to a condition most residents find acceptable. The Tonawanda Creek is the other source of water. While the creek has provided an adequate quantity and quality of water for more than 90 years, it is a surface water source and is therefore susceptible to rapid changes in quality. Runoff can quickly increase levels of turbidity, making the creek water less cost-effective to process. Creek water is used to supplement our wells and as a back up water supply. In an emergency, the city can even purchase water from the Monroe County Water Authority through connecting water lines.

Water Main Flushing

Distribution mains (pipes) convey water homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, , allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

The Village usually flushes hydrants two times a year, in April and November.